

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions and listings of claims in this application.

Claims 1. to 33. (Canceled)

34. (currently amended) A method for fabricating a structure in the form of a plate which method comprises:

providing depositing at least one intermediate layer on either of a substrate and/or a superstrate wherein the intermediate layer comprises at least one base material having distributed therein extrinsic atoms or molecules which differ from those of the base material;

assembling the substrate and the superstrate so that the intermediate layer is interposed between ~~[[a]]~~ the substrate and ~~[[a]]~~ the superstrate to form a structure, ~~with the intermediate layer comprising at least one base material having distributed therein extrinsic atoms or molecules which differ from those of the base material;~~ and

applying a heat treatment to the structure in a temperature range that causes the intermediate layer to become plastically deformable with the as-deposited extrinsic atoms or molecules in the base material causing an irreversible formation of microbubbles or microcavities in the intermediate layer in a configuration and amount sufficient to weaken the intermediate layer.

35. (previously presented) The method as claimed in claim 34, which further comprises continuing the heat treatment until it produces a rupture of the intermediate layer and, as a result, separation of the substrate and the superstrate.

36. (previously presented) The method as claimed in claim 34, which further comprises applying forces between the substrate and the superstrate to bring about the rupture of the intermediate layer between the substrate and the superstrate due to the presence of the micro-bubbles or micro-cavities.

37. (canceled)

38. (currently amended) The method as claimed in claim 34, which further comprises chemically attacking the intermediate layer of the structure ~~to at least partially remove the intermediate layer between~~ so as to separate the substrate and the superstrate.

39. (previously presented) The method as claimed in claim 34, wherein the extrinsic atoms or molecules cause the intermediate layer to be formed as a glass.

40. (currently amended) The method as claimed in claim 34, wherein ~~the extrinsic atoms or molecules cause an increase in thickness of the intermediate layer~~ increases in its thickness subsequent to the heat treatment as compared to its thickness prior to the heat treatment by as much as a factor of 3 ~~[[or]]~~ .

41. (currently amended) The method as claimed in claim 34, wherein, after the heat treatment, at least some the microbubbles or microcavities have a volume such that they are open both on the substrate ~~[[or]]~~ and on superstrate side ~~[[and]]~~ or furthermore ~~that they are~~ mutually open to constitute channels which are open ~~[[to]]~~ between the side ends of the intermediate layer.

42. (previously presented) The method as claimed in claim 41, which further comprises providing projecting portions in the substrate or superstrate which constitute notches that facilitate the formation of the channels.

43. (currently amended) The method as claimed in claim ~~[[40]]~~ 41, which further comprises cooling the structure by circulating a cooling fluid through the channels formed by the micro-bubbles or micro-cavities.

44. (currently amended) The method as claimed in claim ~~[[40]]~~ 41, which further comprises introducing a solution of acid into the channels to ~~comically~~ chemically attack the intermediate layer.

45. (previously presented) The method as claimed in claim 34, which further comprises reducing the thickness of the superstrate or substrate.

46. (previously presented) The method as claimed in claim 34, wherein the substrate and the superstrate are formed from monocrystalline silicon.

47. (currently amended) The method as claimed in claim ~~[[46]]~~ 34, wherein the base material ~~is formed from~~ comprises silica and the extrinsic atoms ~~[[are]]~~ comprise atoms of phosphorus ~~or boron~~, thus forming an intermediate layer of phospho-silicate glass ~~or bore-phospho-silicate glass~~.

48. (currently amended) The method as claimed in claim ~~[[47]]~~ 54, wherein the concentration of phosphorus is in the range from 6% to 14% or the concentration of boron is ~~up to~~ in the range from 0% to 4%.

49. (previously presented) The method as claimed in claim 34, wherein the heat treatment is carried out at a temperature in the range from 900 °C to 1200 °C.

50. (currently amended) The method as claimed in claim 34, ~~which further comprises, prior to conducting the heat treatment, carrying out an operation for depositing the intermediate layer on either of the substrate or the superstrate, and wherein the step of~~ assembling further comprises attaching the superstrate or substrate to the intermediate layer by molecular wafer bonding.

51. (currently amended) The method as claimed in claim 50, which further comprises, prior to ~~bonding~~ the step of assembling, providing a thermal silicon oxide on either of the substrate or superstrate that does not include the intermediate layer .

52. (currently amended) The method as claimed in claim ~~[[34]]~~ 50, which further comprises, prior to ~~bonding~~ the step of depositing, providing a thermal silicon oxide on each of the substrate and superstrate, ~~depositing so that the intermediate layer is deposited on the thermal silicon oxide on either of the substrate or the superstrate, and attaching the superstrate or substrate to the intermediate layer by molecular wafer bonding.~~

53. (previously presented) The method as claimed in claim 34, which further comprises fabricating the plate as a silicon on insulator plate for the further fabrication of integrated electronic circuits or integrated opto-electronic circuits thereon.

54. (new) The method as claimed in claim 47 wherein extrinsic atoms further comprise atoms of boron, thus forming an intermediate layer of boro-phospho-silicate glass